

Algoma University Animal Care Committee	
#AU 0030 Visible Implant Elastomer (VIE) Tagging	
Issue date: May 2024	Last revised: June 2025

1) Purpose

This Standard Operating Procedure (SOP) describes acceptable procedures for tagging fish using visible implant elastomer (VIE).

2) Policy

CCAC guidelines and regulations

3) Responsibility

Principal investigator, their research staff, and their student investigators

4) Training Required

Animal Research Ethics

Handling/training in the relevant species

Bio-methodology training in the relevant technique and species

Federal Canadian Wildlife Service Scientific Collection Permit

5) Materials Required

Trough or other Container (filled with water)

Mixing Cup

Stirring Stick

Visible Implant Elastomer Tag Materials (coloured material and curing agent)

Transfer Syringe

Injection Needle

Gloves

6) Procedures

NOTE: This procedure is based on the guidelines provided by the manufacturer of VIE tags (Northwest Marine Technology, Inc).

NOTE: VIE tags are small, flexible, bio-compatible, coloured tags that are injected as a liquid under transparent or translucent tissue so that they are externally visible. They are available in 10 colours including some colours that are fluorescent and can be used in a wide variety of species (hundreds of species to date), including fishes. Tags in small fishes can be retained for a period of months to years

Procedure: Elastomer Tagging

1. Thoroughly mix the two elastomer materials (coloured material and curing agent) in a 10:1 ratio in a plastic mixing cup for 1 minute.

- a. Following mixing, the material will stay liquid for 1-hour (less at cold temperatures)
- b. The minimum amount of material that can be mixed and handled accurately is 0.1mL.

c. Any mixed elastomer that will not be immediately used can be stored in the freezer for up to 48 hours

2. Using a 1mL syringe, slowly draw up the mixed elastomer material

3. Remove the white cap and plunger from a 0.3cc injection syringe and place the tip of the 1mL syringe into the opening of the 0.3cc injection syringe and dispense until the injection syringe is approximately 1/3 full

NOTE: Filling more than this will make it difficult to dispense the tagging material

4. Replace the plunger in the injection syringe and remove the orange cap to access the needle. Push the plunger gently until a small bead of elastomer appears at the tip of the needle

5. Before each injection, use a small sponge or paper towel to clear the needle of any excess cured elastomer

6. Wearing gloves, place the fish in a small petri dish or trough (depending on fish size) with the surface of the fish that will take the tag above the water

NOTE: Tags can be placed in a variety of places in fishes depending on availability of transparent/translucent tissue including areas behind the eye (adipose eyelid), on or near the fins, or on a ventral surface (see Figures 1 and 2).

7. Insert the needle under the skin extended to the farthest point where you would like the elastomer mark to begin. Inject the elastomer as the needle is pulled back out and stop dispensing elastomer before withdrawing the needle completely to avoid trailing material

a. If any material is present outside of the injection area, gently wipe it off towards the tag

8. Dispose of the used syringe in a sharps container

9. Release the fish or return it to its housing container gently

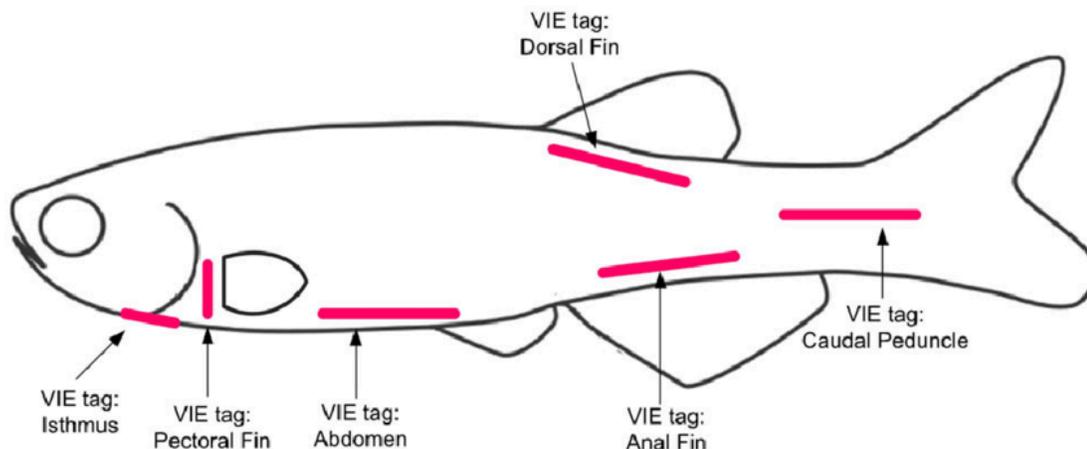


Figure 1: Potential locations for elastomer tagging in small-bodied fishes



Figure 2: Photographs of VIE tags in fishes



Figure 3: Eastern Sand Darter with orange dorsal VIE tag

7) References (if applicable)

Figure 1 from Hohn & Peterson (2013) *Biol Open* 2: 1397-1401

Figure 2 top right from Anita Rácz, other three photos from Northwest Marine Technology, Inc.

Figure 3 I took the photo for while working under Dr. Christine Madliger

REVISION HISTORY		
Revision #	Revision Date	Summary of Changes
1	June 2025	Reformatting SOP
2		
3		
4		